

City of Garden Grove

INTER-DEPARTMENT MEMORANDUM

To: Matthew J. Fertal From: William E. Murray
Dept.: City Manager Dept.: Public Works
Subject: ADOPTION OF THE ORANGE COUNTY REGIONAL WATER AND
WASTEWATER MULTI-HAZARD MITIGATION PLAN UPDATE Date: February 14, 2012

OBJECTIVE

To recommend City Council adopt the Orange County Regional Water and Wastewater Multi-Hazard Mitigation Plan Update (the Plan), as required by the Disaster Mitigation Act of 2000 (DMA 2000).

BACKGROUND

In 2007, a multi-hazard mitigation plan was prepared in cooperation with the Municipal Water District of Orange County (MWDOC) and 19 other participating water and wastewater utilities. The Plan provides a framework for the water and wastewater utilities to prepare for natural and man-made hazards in Orange County.

The Plan was developed by assessing, profiling and mitigating the risks within the community's water and wastewater facilities. The Plan contains a list of goals, objectives and actions that can be implemented to ensure continuous services to our community and safeguarding those services in the event of a disaster.

DISCUSSION

The Plan is required to be updated every 5 years. Section 5 of the attached Plan (Attachment 2) contains the goals and objectives for the City of Garden Grove Water Services and Garden Grove Sanitary District. Due to its size, the entire Plan is available for review in the City Clerk's Office or online at MWDOC's website.

After adoption by the local agencies, the Plan will be submitted to FEMA and the California Office of Emergency Services for approval. Once approved, the City will be eligible to receive FEMA funds for the purpose of mitigating damage to public facilities due to a natural disaster.

ADOPTION OF THE ORANGE COUNTY REGIONAL
WATER AND WASTEWATER MULTI- HAZARD MITIGATION PLAN UPDATE
February 14, 2012
Page 2

FISCAL IMPACT

There is no impact to the Water Enterprise Fund or the General Fund.

RECOMMENDATION

It is recommended that the City Council:


- Adopt the attached Resolution adopting the updated Orange County Regional Water and Wastewater Multi-Hazard Mitigation Plan, including Section 5 thereto.



WILLIAM E. MURRAY
Director of Public Works

By: 
David Entsminger
Water Services Manager

Attachment1) Resolution
Attachment2) Section 5 of the Plan

Recommended for Approval

Matthew Feral
City Manager

GARDEN GROVE CITY COUNCIL

RESOLUTION NO.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GARDEN GROVE
ADOPTING THE UPDATED ORANGE COUNTY REGIONAL WATER AND WASTEWATER
MULTI-HAZARD MITIGATION PLAN PURSUANT TO THE FEDERAL DISASTER
MITIGATION ACT OF 2000

WHEREAS, the City of Garden Grove recognizes the natural and manmade hazards that can affect the Orange County water and wastewater community;

WHEREAS, due to the potential effects those disasters can have on its ability to provide water and/or wastewater services to its customers, the City of Garden Grove has determined it is of benefit to participate in the Orange County Regional Water and Wastewater Multi-Hazard Mitigation;

WHEREAS, federal legislation has historically provided funding for disaster relief, recovery, and some hazard mitigation planning;

WHEREAS, the Federal Disaster Mitigation Act of 2000, the latest legislation to improve the hazard mitigation planning process, reinforces the importance of mitigation planning and emphasizes planning for disasters before they occur; allowing, among other things, national post-disaster Hazard Mitigation Grant Program funds to be used for planning activities, and increasing the amount of such funds available to states and communities that have developed a comprehensive, enhanced mitigation plan prior to a disaster;

WHEREAS, beginning in 2004, the Federal Emergency Management Agency (FEMA) began restricting grant applications for pre- and post-hazard mitigation funds for any agencies not covered by an approved Hazard Mitigation Plan;

WHEREAS, in 2006, the City of Garden Grove participated with the Municipal Water District of Orange County ("MWDOC") and eighteen other participating water and wastewater utilities in the County of Orange to develop the Orange County Regional Water and Wastewater Multi-Hazard Mitigation Plan (the "Plan"), which the Garden Grove City Council formally adopted pursuant to Resolution No. 8749-06;

WHEREAS, in accordance with the Federal Disaster Mitigation Act of 2000, the City has participated with MWDOC and the eighteen other participating water and wastewater utilities in the County of Orange to develop an update to the Plan to identify changes in critical infrastructure that is vulnerable to natural hazards;

WHEREAS, both regional and individual agency goals, objectives and actions were reviewed, updated and added to the Plan;

WHEREAS, the Plan was made available for review in the City Clerk's Office and online at the MWDOC's website, and was shared with the public at two public

meetings, and public feedback was considered and incorporated in development of the updated Plan;

WHEREAS, in order to remain eligible for funding and technical assistance for state and federal hazard mitigation programs, the City desires to formally adopt the updated Plan; and

WHEREAS, it is recognized that this Plan is adopted in coordination with the Water Services Emergency Response Plan and staff will utilize both documents as a guideline for future hazard mitigation actions, projects, and grant proposals.

NOW THEREFORE, BE IT HEREBY RESOLVED by the City Council of the City of Garden Grove as follows:

Section 1. The foregoing recitals are true and correct.

Section 2. The City Council hereby adopts in the form presented the updated Orange County Regional Water and Wastewater Multi-Hazard Mitigation Plan, and is hereby approved and adopted as the City's official agency hazard mitigation plan, subject to the incorporation of comments, if any, by the State Office of Emergency Services and the Federal Emergency Management Agency upon completion of their review.

Section 3. The City Manager, or his designee, is authorized and directed to prepare a letter to MWDOC certifying the City Council's adoption of the updated Plan and/or to transmit to MWDOC a certified copy of this Resolution.

SECTION FIVE**GARDEN GROVE****General Overview of Assets
Goals and Objectives****5.8 GARDEN GROVE – OBJECTIVES, GOALS AND ACTIONS**

The City of Garden Grove (Garden Grove) reviewed a set of jurisdictional-level hazard maps including detailed critical facility information and localized potential hazard exposure/loss estimates to help identify the top hazards threatening their jurisdiction. See Section 4 for additional details.

Garden Grove Loss Assessment Table is located at the end of this section (Table 5.8-1).

5.8.1 Capability Assessment

The LPG identified current capabilities available for implementing hazard mitigation activities. The Capability Assessment (Assessment) portion of the jurisdictional mitigation plan identifies administrative, technical, legal and fiscal capabilities. This includes a summary of departments and their responsibilities associated to hazard mitigation planning as well as codes, ordinances, and plans already in place associated to hazard mitigation planning. The second part of the Assessment provides Garden Grove's fiscal capabilities that may be applicable to providing financial resources to implement identified mitigation action items.

5.8.2 Existing Institutions, Plans, Policies and Ordinances

The legal and regulatory capabilities of Garden Grove are shown in Table 5.8.2-1, which presents the existing ordinances and codes that affect the physical or built environment of Garden Grove. Examples of legal and/or regulatory capabilities can include: the City's building codes, zoning ordinances, subdivision ordinances, special purpose ordinances, growth management ordinances, site plan review, general plans, capital improvement plans, economic development plans, emergency response plans, and real estate disclosure plans.

**Table 5.8.2-1
Legal and Regulatory Capability**

Regulatory Tools (ordinances, codes, plans)	Local Authority (Yes/No)	State Authority (Yes/No)	Other Level Jurisdiction Authority (Yes/No)	Comments
A. Building code	Yes	Yes	No	Local cities GG FIRE A.Q.M.D. State Health Dept. Some Exceptions Apply
B. Zoning ordinance	Yes	Yes	No	LOCAL
C. Subdivision ordinance or regulations	Yes	Yes	No	Local cities County of Orange
D. Special purpose ordinances (floodplain management, storm water management,	Yes	Yes	No	County of Orange Regional Water Quality

**Table 5.8.2-1
Legal and Regulatory Capability
(Continued)**

Regulatory Tools (ordinances, codes, plans)	Local Authority (Yes/No)	State Authority (Yes/No)	Other Level Jurisdiction Authority (Yes/No)	Comments
hillside or steep slope ordinances, wildfire ordinances, hazard setback requirements)				Control Board (RWQCB)
E. Growth management ordinances (also called "smart growth" or anti-sprawl programs)	Yes	Yes	No	Local cities County of Orange
F. Site plan review requirements	Yes	Yes	No	Local cities County of Orange OCFA Permits
G. General or comprehensive plan	Yes	Yes	No	Master Plan
H. A capital improvements plan	Yes	Yes	No	City staff
I. An economic development plan	Yes	No	No	Local cities
J. An emergency response plan	Yes	Yes	Yes	SEMS NIMS WEROC
K. A post-disaster recovery plan	Yes	Yes	Yes	NIMS
L. A post-disaster recovery ordinance	Yes	Yes	Yes	Local cities County of Orange State of California F.E.M.A
M. Real estate disclosure requirements	Yes	Yes	No	
N. Metrolink & Caltrans	Yes	Yes	No	
O. NCCP	Yes	Yes	Yes	
P. CA DPH (Security Issues)	Yes	Yes	Yes	Vulnerability Assessment
Q. Waste Discharge Requirements	No	Yes	No	State Water Resources Control Board

5.8.3 Administrative and Technical Capacity

The following is a summary of existing departments in Garden Grove and their responsibilities related to hazard mitigation planning and implementation, as well as existing planning documents and regulations

**Table 5.8.6-1
GARDEN GROVE – Goals, Objectives and Actions
Cross-referenced with Identified Hazards within Orange County
(Continued)**

related to mitigation efforts within the community. The administrative and technical capabilities of Garden Grove, as shown in Table 5.8.3-1, provides an identification of the staff, personnel, and department resources available to implement the actions identified in the mitigation section of the Plan. Specific resources reviewed include those involving technical personnel such as planners/engineers with knowledge of land development and land management practices, engineers trained in construction practices related to building and infrastructure, planners and engineers with an understanding of natural or manmade hazards, floodplain managers, surveyors, personnel with GIS skills and scientists familiar with hazards in the community.

**Table 5.8.3-1
Administrative and Technical Capacity**

Staff/Personnel Resources	Yes/No	Department/Agency and Position
A. Planner(s) or engineer(s) with knowledge of land development and land management practices	Yes	Economic Development Department
B. Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	District coordinates with outside consultants In-house and Consultants Engineering Department
C. Planners or Engineer(s) with an understanding of natural and/or human-caused hazards	Yes	coordinates with outside consultants
D. Floodplain manager	No	County of Orange
E. Surveyors	No	Outside consultant
F. Staff with education or expertise to assess the community's vulnerability to hazards	No	County of Orange
G. Personnel skilled in GIS and/or HAZUS	No	Outside Consultant
H. Scientists familiar with the hazards of the community	No	County
I. Emergency manager	Yes	GG FIRE
J. Grant writers	No	
K. Lab Specialist	No	Contractual lab

Table 5.8.6-1
GARDEN GROVE – Goals, Objectives and Actions
Cross-referenced with Identified Hazards within Orange County
(Continued)

5.8.4 Fiscal Capability

Table 5.8.4-1 shows specific financial and budgetary tools available to Garden Grove such as community development block grants; capital improvements project funding; authority to levy taxes for specific purposes; fees for water, sewer, gas, or electric services; impact fees for homebuyers or developers for new development; ability to incur debt through general obligations bonds; and withholding spending in hazard-prone areas.

Table 5.8.4-1
Fiscal Capability

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
A. Community Development Block Grants (CDBG)	Yes
B. Capital improvements project funding	Yes
C. Authority to levy taxes for specific purposes	No
D. Fees for water, sewer, gas, or electric service	Yes
E. Impact fees for homebuyers or developers for new developments/homes	Yes
F. Incur debt through general obligation bonds	Yes
G. Incur debt through special tax and revenue bonds	Yes
H. Incur debt through private activity bonds	No
I. Withhold spending in hazard-prone areas	Yes
J. Grants	Yes

5.8.5 Local Mitigation Capability Assessment Goals

Listed below are Garden Grove's specific hazard mitigation goals, objectives and related potential actions. For each goal, one or more objectives have been identified that provide strategies to attain the goal. Where appropriate, the City has identified a range of specific actions to achieve the objective and goal.

The goals and objectives were developed by considering the risk assessment findings, localized hazard identification and loss/exposure estimates, and an analysis of the jurisdiction's current capabilities assessment. These preliminary goals, objectives and actions were developed to represent a vision of long-

Table 5.8.6-1
GARDEN GROVE – Goals, Objectives and Actions
Cross-referenced with Identified Hazards within Orange County
(Continued)

term hazard reduction or enhancement of capabilities. To help in further development of these goals and objectives, the LPG compiled and reviewed current jurisdictional sources including the City's planning documents, codes, and ordinances. In addition, City representatives met with consultant staff and/or MWDOC to specifically discuss these hazard-related goals, objectives and actions as they related to the overall Plan. The Garden Grove LPG members were Zack Barrett, Robert Bermudez, Brent Hayes, Les Ruitenschild, and Don Tunison. Once developed, City staff presented the m to the Garden Grove City Council for their approval.

Public meetings were held throughout the County to present these preliminary goals, objectives and actions to citizens and to receive public input. At these meetings, specific consideration was given to hazard identification/profiles and the vulnerability assessment results. The following sections present the hazard-related goals, objectives and actions as prepared by Garden Grove's LPG in conjunction with the Hazard Mitigation Working Group, locally elected officials, and local citizens.

5.8.6 City of Garden Grove Goals

The City of Garden Grove has developed the following five goals and objectives for their Hazard Mitigation Plan.

- Goal 1: Minimize damages to facilities / infrastructure due to natural disasters.**
- A. Protect existing assets from the effects of natural disasters.
 - B. Support existing efforts to mitigate natural disaster hazards.
 - C. Protect potable water from contamination.
- Goal 2: Minimize disruption of service due to hazard induced outages.**
- A. Provide backup system for critical facilities.
- Goal 3: Eliminate or minimize wastewater spills.**
- Goal 4: Reduce potential loss and injury to human life and to existing assets, facilities, and infrastructure due to human caused hazards.**
- A. Develop a comprehensive approach to reduce damage and loss due to human caused hazards.
 - B. Increase the knowledge of City employees and the public of extremely hazardous substance handling procedures and terrorism awareness.
- Goal 5: Promote hazard mitigation and promote public understanding.**

GARDEN GROVE LOSS ESTIMATION Table 5.8-1

Hazard Type	Exposure Loss	WST	RES	WTP	PS	PRS	EIT	SC	ADM	LS	WWTP	WELL	PWL	WWL	Total Loss Value
Replacement Cost	\$Millions	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	[']
Earthquake	8	13.0	30.0	10.0	2.0	0.2	0.3	0.6	3.0	0.4	5.0	3.5	1.0	0.5	
	Number														
	Exposure	\$ 104.0	\$ -	\$ -	\$ 10.0	\$ 0.4	\$ 2.4	\$ 2.4	\$ 6.0	\$ -	\$ -	\$ 42.0	\$ 57.0	\$ 136.5	\$ 360.6
	Number	0	0	0	0	0	0	0	0	3	0	1	1	1	
	High	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1.2	\$ -	\$ 3.5	\$ 1.3	\$ 17.4	\$ -
	Exposure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Number	0	0	0	0	0	0	0	0	0	0	0	0	0	\$ 23.4
	Very High	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4	\$ -	\$ -	\$ 3.5
	Exposure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Number	0	0	0	0	0	0	0	0	0	0	0	0	0	\$ 84.67
	Flood	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.3	\$ 0.6	\$ 3.0	\$ 0.4	\$ -	\$ 10.5	\$ 14.1	\$ 32.3	\$ 61.2
	100 yr	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Exposure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Number	8	0	0	5	2	7	3	1	2	0	10	44.16	0.00	\$ 201.3
	500 yr	\$ 104	\$ -	\$ -	\$ 10.0	\$ 0.4	\$ 2.1	\$ 1.8	\$ 3.0	\$ 0.8	\$ -	\$ 35.0	\$ 44.2	\$ -	\$ -
	Exposure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Number	0	0	0	0	0	0	0	0	0	0	0	0	0	\$ -
	Landslide	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Exposure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Number	5	0	0	2	0	1	2	1	2	0	5	23.73	129.28	\$ -
	Liquefaction	\$ 65	\$ -	\$ -	\$ 4.0	\$ -	\$ 0.3	\$ 1.2	\$ 3.0	\$ 0.8	\$ -	\$ 17.5	\$ 23.7	\$ 64.6	\$ 180.2
	Moderate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Exposure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Number	1	0	0	1	2	2	0	1	1	0	3	17.56	84.72	\$ -
	High	\$ 13	\$ -	\$ -	\$ 2.0	\$ 0.4	\$ 0.6	\$ -	\$ 3.0	\$ 0.4	\$ -	\$ 10.5	\$ 17.6	\$ 42.4	\$ 89.8
	Exposure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Number	0	0	0	0	0	0	0	0	0	0	0	0	0	\$ -
	Very High	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Exposure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Number	0	0	0	0	0	0	0	0	0	0	0	0	0	\$ -
	Wildlife/Structure Fire	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Low	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Exposure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Number	0	0	0	0	0	0	0	0	0	0	0	0	0	\$ 6.3
	High	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Exposure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Number	0	0	0	0	0	0	0	0	0	0	0	0	0	\$ -
	Extreme	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Exposure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Number	0	0	0	0	0	0	0	0	0	0	0	0	0	\$ -
	Grand Total														926.3

Garden Grove Projects Chart

Table 5.8.6-1

Best Management Practice (BMP): If the previous action is actually a BMP, mark this box with a check mark.

Timeframe to completion of project: "Immediate" is up to 1 year; "Short Term" is 1 to 3 years; "Long Term" is 3 years or longer.

Hazards: "Flood/Storm," "Wildland/Urban Fire," "Earthquake," "Dam Failure/Water Tank Failure," "Landslide/Mudslide," "Tornado/High Winds," "Tsunami," "Extreme Heat/Drought," "Expansive Soils/Land Subsidence/Liquefaction," "Man-Made Status: "New" refers to a mitigation initiative newly created as part of the plan update process; "Existing" refers to an unfinished initiative that is carried over from the 2007 plan; "Modified" refers to an existing initiative that carried over from the Status Rationale. A statement of justification as to why the project is currently in the status it is in.

Priority (High, Medium, or Low)	Action/Task/Project Description	Location/Facility	BEST MANAGEMENT PRACTICES (BMP)	Hazard	Risk (High, Medium, or Low)	Cost	Timeframe (Immediate, Short Term, or Long Term)	Possible Funding Sources	Status/ Progress (New, Existing, Modified, Removed, Complete)	Status Rationale
Goal 1: Minimize damages to facilities/infrastructure due to natural disasters										
1	Conduct system wide reservoir condition evaluation and recommendations. This includes seismic evaluation.	Throughout Garden Grove Service Area		Earthquake	High	\$310,000	Immediate	Water Fund or Grants	New	More recent evaluation needed for current facilities.
5	Keep Emergency Operations Plan up-to-date.		X						Remove	BMP that should be done for daily optimal operations performance and system efficiency.
4	Identify all major fuel pipelines, rail transportation corridors, manufacturing facilities, and their relative vulnerability relative to hazardous material releases.	Throughout Garden Grove Service Area		Earthquake	High	\$1,500 / Year	Long Term	Water Fund or Grants	Existing and Ongoing	Complete as information becomes available.
8	Continue to use current building and infrastructure codes, standards and guidelines.	Throughout Garden Grove Service Area	X						Remove	BMP that should be done for daily optimal operations performance and system efficiency.
9	Continue to follow standard plans and guidelines.	Throughout Garden Grove Service Area	X						Remove	BMP that should be done for daily optimal operations performance and system efficiency.
7	Strictly enforce standard separation between water infrastructure and other utilities.	Throughout Garden Grove Service Area	X						Remove	BMP that should be done for daily optimal operations performance and system efficiency.
3	Install beam detection and alert notification system and upgrade security video surveillance system.	Public Works Municipal Facilities Yard		Man-Made	High	\$30,000 + \$2,000 Monthly	Immediate	Water Fund	New	Security of Drinking Water
6	Maintain daily operations site visit monitoring program to each facility.	Throughout Garden Grove Service Area	X						Remove	BMP that should be done for daily optimal operations performance and system efficiency.

Priority (High, Medium, or Low)	Action/Task/Project Description	Location/Facility	BEST MANAGEMENT PRACTICES (BMP)	Hazard	Risk (High, Medium, or Low)	Cost	Timeframe (Immediate, Short Term, or Long Term)	Possible Funding Sources	Status/ Progress (New, Existing, Modified, Removed, Complete)	Status Rationale
2	Update SCADA software, install new monitors, install fiber optic links. To be conducted in four phases.	Throughout Garden Grove Service Area.		Multi	High	\$1,000,000	Immediate	Water Fund	New	Security purposes, as well as operational capabilities following an event.
Goal 2: Minimize disruption of service due to hazard induced outages.										
2	Maintain interties between supply sources.		X						Remove	BMP that should be done for daily optimal operations performance and system efficiency.
1	Reconfigure piping, valves, and add metering devices of intertie facilities bordering Anaheim	Bordering City of Anaheim		Earthquake, Main Breaks, or other Failures	Medium	\$200,000	Short Term	Water Fund or Grants	New	Enhance reliability of intertie for supply.
3	Protect facilities within flood plain areas.	Throughout Garden Grove Service Area		Flood	Medium	\$250,000	Long Term	Water Fund or Grants	Existing and Ongoing	As funding is available additional projects are accomplished.
4	Continue with daily site check		X						Remove	BMP that should be done for daily optimal operations performance and system efficiency.
5	Improve response time.		X						Remove	BMP that should be done for daily optimal operations performance and system efficiency.
6	Update system maps to reflect current condition.	Throughout Garden Grove Service Area		Earthquake, Main Breaks, or other Failures	Medium	\$500,000	Short Term	Water Fund or Grants	Existing and Ongoing	In progress
7	Maintain stand-by crew for emergency repair.		X						Remove	BMP that should be done for daily optimal operations performance and system efficiency.
Goal 3: Eliminate or minimize wastewater spills										
1	Eliminated old lift station / force main and replaced with rerouted gravity sewer main	Harbor Boulevard and Heil Avenue.		Earthquake, Flood, and System Failures	High	\$1,350,000	Immediate	Sewer Fund	New	In planning process; enhances reliability

Priority (High, Medium, or Low)	Action/Task/Project Description	Location/Facility	BEST MANAGEMENT PRACTICES (BMP)	Hazard	Risk (High, Medium, or Low)	Cost	Timeframe (Immediate, Short Term, or Long Term)	Possible Funding Sources	Status/ Progress (New, Existing, Modified, Removed, Complete)	Status Rationale
2	Demolish and replace Tiffany Lift Station with new wet well sized for storage until emergency pumps can be mobilized. Install Emergency generator.	Tiffany Avenue and Bailey Street		Earthquake, Flood, and System Failures	High	\$2,500,000	Immediate	Sewer Fund	New	In planning process; reduces environmental impacts and provides greater response time.
3	Construct new lift station due to storm drain improvements with the SR 22 improvements	Partridge Street and Garden Grove Boulevard.		Flood	High	\$1,500,000	Immediate	Sewer Fund	New	In planning process
4	Demolish and replace Belgrave Lift Station with new wet well sized for storage until emergency pumps can be mobilized. Install Emergency generator.	Belgrave Avenue and Laureiton Avenue		Earthquake, Flood, and System Failures	High	\$2,500,000	Short Term	Sewer Fund	New	In planning process; reduces environmental impacts and provides greater response time.
6	Place protective measures in rivers and creeks.		X						Remove	SSO response in channels
7	Install jointless pipelines in all creek crossings and slope easements.								Remove	Determined to not be applicable to district.
8	Replace existing force mains, if necessary.	Tiffany, Partridge, and Belgrave Lift Stations		Earthquake, Flood, and System Failures	Low	\$200,000	Immediate	Sewer Fund	Existing	All force mains are either new or constructed within the last 10 years
5	Protect facilities within flood plain areas.		X						Remove	BMP that should be done for daily optimal operations performance and system efficiency.
9	Maintain stand-by crew for emergency repair.		X						Remove	BMP that should be done for daily optimal operations performance and system efficiency.
Goal 4: Reduce potential loss and injury to human life and to existing assets, facilities, and infrastructure due to human caused hazards.										
1	Continue and expand cooperation with all outside agencies regarding human caused hazards.		X						Remove	BMP that should be done for daily optimal operations performance and system efficiency.
2	Continue and expand education for administrative and field personnel on possible human caused hazards.	Public Works Municipal Facilities Yard, 13802 Newhope Street.		Human Caused	Low	\$2,00/year	Long Term	Sewer Fund	Existing	Continue annually
3	Survey and improve site fencing and other forms of hardening facility deterrence.	Tiffany, Partridge, and Belgrave Lift Stations		Manmade	High	Part of Tiffany Cost	Long Term	Sewer Fund	New	In progress

Priority (High, Medium, or Low)	Action/Task/Project Description	Location/Facility	BEST MANAGEMENT PRACTICES (BMP)	Hazard	Risk (High, Medium, or Low)	Cost	Timeframe (Immediate, Short Term, or Long Term)	Possible Funding Sources	Status/Progress (New, Existing, Modified, Removed, Complete)	Status Rationale
4	Improve response time to alarm and emergency events.	Tiffany, Partridge, and Belgrave Lift Stations		Multi	High	\$1,000/year	Long Term	Sewer Fund	New	In progress
5	Modify SCADA system, when feasible, to look for additional parameters of operation that may indicate problem areas.	Tiffany, Partridge, and Belgrave Lift Stations		Multi	High	Part of all LS Costs	Immediate	Sewer Fund	New	In progress
6	Continue and expand safety training for all City personnel who may come in contact with said materials.	Public Works Municipal Facilities Yard, 13807 Newhope Street.	X				Long Term	Sewer Fund	Remove	BMP that should be done for daily optimal operations performance and system efficiency.
7	Conduct workshops for awareness of hazardous materials incidents for all employees.	Public Works Municipal Facilities Yard	X	Multi	High	\$10,000/year	Long Term	Sewer Fund	Remove	BMP that should be done for annually optimal operations performance and system efficiency.
8	Examine opportunities for on-line water quality sensing relative to potential human induced contamination, and implement if feasible.	Throughout Garden Grove Service Area		Manmade	Medium	Unknown	Long Term	Sewer Fund	New	Research new technologies and their applicability to the city.
Goal 5: Promote hazard mitigation and promote public understanding.										
1	Participate and coordinate with Water Emergency Response Organization of Orange County (WEROC) and other member agencies in hazard preparedness.		X						Remove	BMP that should be done for daily optimal operations performance and system efficiency.
2	Ensure sufficient equipment, materials, and communications hardware to respond and recover from natural hazards.	Public Works Municipal Facilities Yard	X	Earthquake, Flood	Low	\$40,000/year	Long Term	Sewer Fund	Remove	BMP that should be done for daily optimal operations performance and system efficiency.
3	Develop mutual aid response teams, training, and exercises for natural hazards with local member agencies.		X						Complete	Accomplished through WEROC and WARIN
4	Promote a partnership between the local, county, state governments to identify, prioritize, and implement mitigation actions.		X						Remove	Accomplished through City-Wide Emergency Program
5	Use the public media to cover mitigation activities.		X						Remove	Accomplished through City-Wide Emergency Program
6	Publish newsletters for the public and business leaders with information regarding hazardous mitigation of natural and man-made hazards.		X						Remove	Accomplished through City-Wide Emergency Program

Priority (High, Medium, or Low)	Action/Task/Project Description	Location/Facility	BEST MANAGEMENT PRACTICES (BMP)	Hazard	Risk (High, Medium, or Low)	Cost	Timeframe (Immediate, Short Term, or Long Term)	Possible Funding Sources	Status/Progress (New, Existing, Modified, Removed, Complete)	Status Rationale
7	Develop full cooperation with all outside agencies regarding human caused hazards.		X						Remove	Accomplished through City-Wide Emergency Program